**K-5 Math Lesson Plan**

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| **Teacher: MB Payne** | | | **Grade: 3** | | | **Date(s)**: Aug 28, 2012 |
| **Unit Title: Unit 1-Place Value with Addition and Subtraction within 1,000** | | | | **Corresponding Unit Task: Taught prior to Performance Task 1. This lesson will focus on using different strategies to add and subtract. Knowledge of landmark numbers (multiples of 10 and 100) is assumed.** | | |
| **Essential Question(s): What strategies can I use to add and subtract multi-digit numbers? Why do I need to know multiple strategies to add and subtract numbers?** | | | | | | |
| **Materials/Resources** | | | | | **Essential Vocabulary** | |
| **Teacher:**  **Guinness Book of World Records**  **Vocabulary cards**  **100 chart**  **Note taking sheet** | | **Student: Interlocking cubes or counters, 100 charts, 2 copies of each sheet of Numeral cards per pair/group, How to Play ‘Close to 100’ sheets (1 per pair/group), ‘Close to 100’ Score Sheet (1 per student)** | | | **difference, combine, compare, compose, decompose** | |
| **Learning Experience** | | | | | | |
| **8 Mathematical Practices:**  **1. Make sense of problems and persevere in solving them.**  **2. Reason abstractly and quantitatively.**  **3. Construct viable arguments and critique the reasoning of others.**  **4. Model with mathematics**.  5. Use appropriate tools strategically.  6. Attend to precision.  7. Look for and make use of structure.  8. Look for and express regularity in repeated reasoning. | **Common Core State Standards:**  **3.NBT.2 Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.** | | | | | |
| **I Can Statement(s):**  **-I can compare two numbers and figure out how to determine their difference.**  **-I can develop ways of getting close to 100 by combining numbers.**  **-I can use landmark numbers (multiples of 10 and 100) to compare two quantities.** | | | | | |
| **Activating Strategy/Hook: (How will students become cognitively engaged and focused?)**   1. **Look at and discuss some of the world records in *The Guinness Book of World Records*. Direct conversation about the use of numbers and compare/combine some of the records- i.e. - the record weight for the heaviest pumpkin and heaviest dog, longest snake with smallest.** 2. **Tell students that today they will compare the number of children in their family to the record number of children in a family. Ask, “How should we count the number of children? Whom should we count?” Allow time for discussion. (*Guinness* uses the definition of children who have the same birth mother.)** | | | | | |
| **Teacher Directed:**   1. **Have students write the number of children in their family on a piece of paper.** 2. **Ask for estimates of the world record of children in a family.** 3. **Tell them that the largest number of children in a single family was 69. (The largest number of children in a single family was 69. This family lived in Russia about 250 years ago. It included 16 pairs of twins, 7 sets of triplets and 4 sets of quadruplets. There were no single births.)** 4. **Ask, “How many more children would you need in your family in order to tie the record? In other words, what is the difference between the number of children in your family and the record number of children?”** 5. **Answer the question yourself about your family. Explain, show with 100 chart, and record how you got your answer and model possible strategies.** | | | | | |
| **Guided Practice:**   1. **Have students work in pairs comparing their individual family data with the record. Supply cubes and 100 charts to work with. Circulate and ask them to explain how they are finding the difference. Encourage them to use materials and representations to show their strategies.** 2. **Have students compare the largest family with the class using the same procedure.** 3. **Add the word ‘difference’ to the math vocabulary wall.** 4. **Ask several pairs of volunteers to share their findings with the class, explaining how they worked out their comparisons. Encourage students to share the different strategies they used.** 5. **Demonstrate how to play the game ‘Close to 100’, (Included) showing**   **left-to-right addition, rounding to nearby landmarks, and changing the order of the numbers.** | | | | | |
| **Independent Practice: Play ‘Close to 100’ as a Solitaire type game.** | | | | | |
| **Closing/Summarizing Strategy: Have students generate a list of strategies used to answer questions/solve problems and record on an anchor chart that will be posted throughout this unit. Emphasize that knowing how to arrive at an answer more than one way is one of the most important math skills that they need to acquire.** | | | | | |
| **Differentiation Strategies** | | | | | | |
| **Extension** | | | **Intervention** | | | **Language Development** |
| **Play ‘Close to 1,000’ instead of 100**  **Find records in *Guinness* to combine/compare. Illustrate combinations and comparisons.** | | | **Allow calculators to be used to check answers** | | | **Discuss different family structures among cultures.** |
| **Assessment(s): Give students 3 addition problems and have them show their work at least 2 different ways.** | | | | | | |
| **Teacher Reflection:** (Next steps?)  **How did students find the differences between two numbers?**  **Do they count up from the smallest number? Use materials or representations? Use landmark numbers? Use subtraction?**  **What strategies do students use for ‘Close to 100’? Do they make use of landmark numbers?** | | | | | | |

This lesson was adapted from a lesson in Investigations in Number, Data, and Space Curriculum Unit, *Combining and Comparing* (Pearson Education, 2004)

**CLOSE TO 100**

**Materials**

* One deck of numeral cards
* Close to 100 Score Sheet for each player

**Players:** 1, 2, or 3

**How to Play**

1. Shuffle and deal out six number cards to each player.
2. Use any four of your cards to make two numbers. For example: 7 and 3 could make 73 or 37. (Wild cards can be used as any number.) Try to make numbers that, when added, give you a total that is close to 100.
3. Write these two numbers and their total on the Close to 100 Score Sheet. For example: 31+59=90.
4. Find your score. Your score is the difference between your total and 100. For example: If your total is 90, your score is 10. If your total is 105, your score is 5.
5. Put the cards you used in the discard pile. Keep the two cards you didn’t use for the next round.
6. For the next round, deal four new cards to each player. Make more numbers that come close to 100. When you run out of cards, mix up the discard pile and use those cards again.
7. Five rounds make one game. Total your scores for the five rounds. LOWEST score wins.

**NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**CLOSE TO 100 SCORE SHEET**

**GAME 1 SCORE**

**ROUND 1: \_\_\_\_\_ \_\_\_\_\_ + \_\_\_\_\_ \_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_**

**ROUND 2: \_\_\_\_\_ \_\_\_\_\_ + \_\_\_\_\_ \_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_**

**ROUND 3: \_\_\_\_\_ \_\_\_\_\_ + \_\_\_\_\_ \_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_**

**ROUND 4: \_\_\_\_\_ \_\_\_\_\_ + \_\_\_\_\_ \_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_**

**ROUND 5: \_\_\_\_\_ \_\_\_\_\_ + \_\_\_\_\_ \_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_**

**TOTAL SCORE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**GAME 2 SCORE**

**ROUND 1: \_\_\_\_\_ \_\_\_\_\_ + \_\_\_\_\_ \_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_**

**ROUND 2: \_\_\_\_\_ \_\_\_\_\_ + \_\_\_\_\_ \_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_**

**ROUND 3: \_\_\_\_\_ \_\_\_\_\_ + \_\_\_\_\_ \_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_**

**ROUND 4: \_\_\_\_\_ \_\_\_\_\_ + \_\_\_\_\_ \_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_**

**ROUND 5: \_\_\_\_\_ \_\_\_\_\_ + \_\_\_\_\_ \_\_\_\_\_= \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_**

**TOTAL SCORE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |
| --- | --- | --- | --- |
| 0 | 0 | 1 | 1 |
| 2 | 2 | 3 | 3 |
| 4 | 4 | 5 | 5 |
| 6 | 6 | 7 | 7 |

|  |  |  |  |
| --- | --- | --- | --- |
| 8 | 8 | 9 | 9 |
| WILD CARD | WILD CARD | WILD CARD | WILD CARD |
|  |  |  |  |
|  |  |  |  |